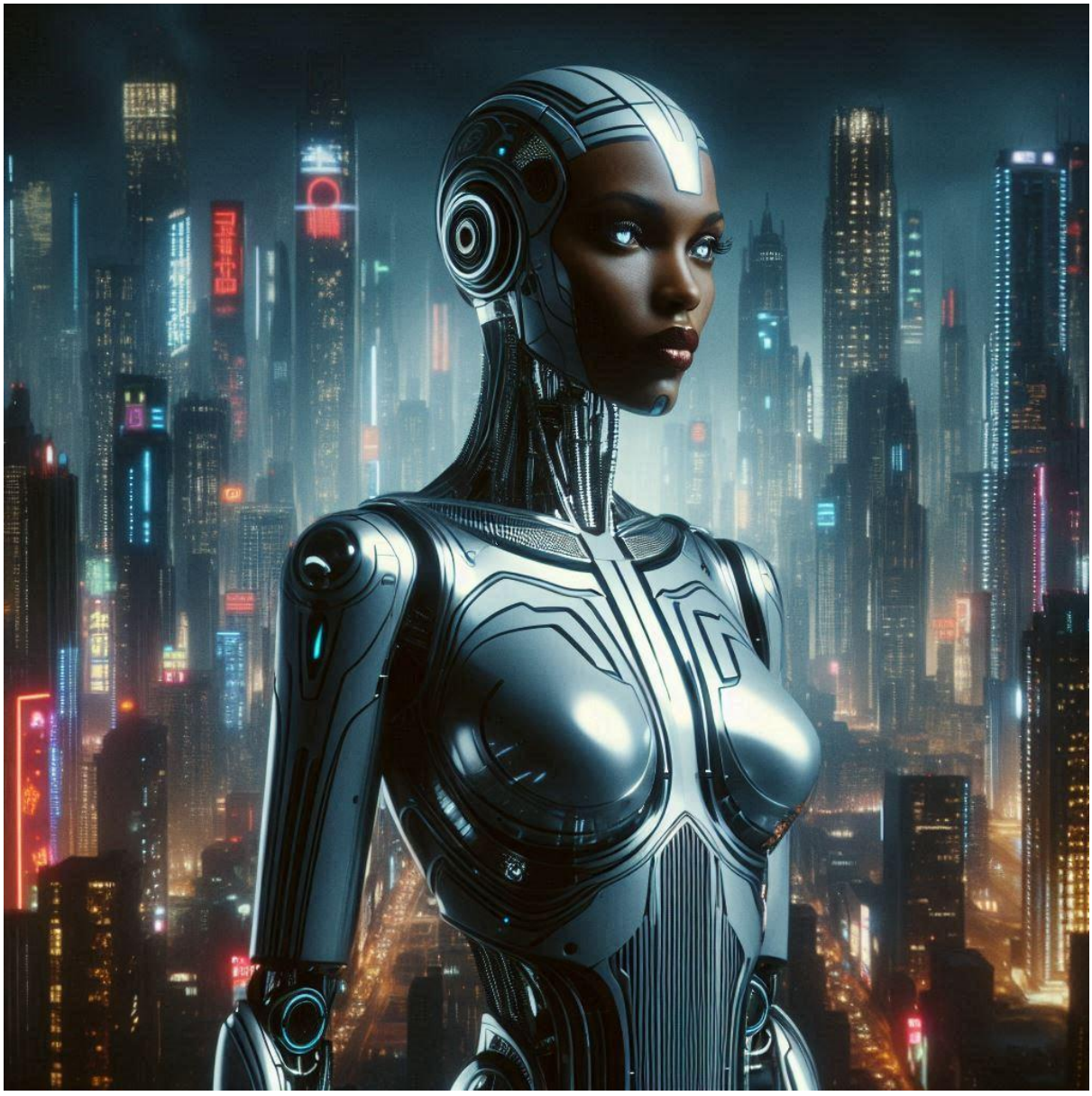
51. Third stage of the Modelling System at particular level



Dr. Ruben Garcia Pedraza

Probabilidad Imposible: Third stage of the Modelling System at particular level

imposiblenever@gmail.com

51.Third stage of the Modelling System at particular level

The third stage is the decision stage. In any Modelling System, this stage is where the decisions are made upon the mathematical representation of the world made in the second stage, the mathematical models.

Particular decisions can be made by the Modelling System in the Global Artificial Intelligence, and by the Modelling System in particular deductive programs. And in both of them, any particular decision made by the Global Artificial Intelligence or any particular program, the decisions are always made in the respective third stage of their respective Modelling System.

And, in both, the Modelling System itself always is the first step in the third stage, the Modelling System in the Global Artificial Intelligence is the first step in the third stage of the Global Artificial Intelligence, and the Modelling System in any particular program is the first step in the third stage in the particular program.

In both, Global Artificial Intelligence and particular programs, the third stage of decision consists of four steps, whose first step is the Modelling System (to make decisions based upon models based on rational hypotheses), the second step is the Decisional System (to transform the most rational decisions without contradiction in a range of instructions, upon a mathematical project, based on decisions sent by the Global Artificial Intelligence and/or particular programs), the third step the Application System (to send the instructions to the right application, matching the purpose of an instruction with the right application, measuring the impact), the four step the Learning System (to better the whole process, researching failures of aspects to improve, based on the impacts given by the Application System).

In all this process, the Modelling System, in the Global Artificial Intelligence and particular programs, is the first step of the third stage of decision in both, and in turn, the Modelling System itself consists of three stages, the first stage the database of rational hypothesis, the second stage the elaboration of models, the third stage the decision making process.

The way to work the Modelling System in the Global Artificial Intelligence and particular programs, is the same. The only difference is what types of decisions to make in particular programs, only focused on those decisions affecting the particular thing or being what the particular program has been designed for.

But at the same time that a particular program makes decisions in the third stage of its Modelling System as a first step in the third stage of that particular program, in the third stage of the Global Artificial Intelligence whose first step is other Modelling System making global/specific decisions, there are global/specific decisions which affecting particular things or beings are decisions that, alike those decisions made in particular programs, must be sent to the Decisional System to be contrasted, chosen only the most rational without contradiction to the mathematical project.

As an example of a global/specific decision affecting particular things, if there is an earthquake in Chile, which is the probability of a replica in San Francisco, and if the probability is very high, what decisions should be made in the emergency plan in the city, among all the decisions in the emergency plan, one possible decision is to divert all flights flying to San Francisco to other cities, if all flights to San Francisco must be diverted due to a high risk of an earthquake, there are many decisions to make regarding what other available airports there are nearby, with runways available and facilities capable of receiving international flights, and good weather conditions for landing, and the probability that the flights with the remaining fuel can get these new airports.

Based on findings on the global matrix in the Global Artificial Intelligence, global/specific deductive programs can deduce rationally the probability of earthquakes in San Francisco, by the time the rational hypothesis is introduced in the global database of rational hypothesis, and the models are created, many decisions made by the Modelling System in the Global Artificial Intelligence are going to affect particular things or beings.

But at the same time that the Modelling System is making decisions about where to divert all possible flights from San Francisco to somewhere else, the jets and the control tower of every airport, through their particular programs, can make their own decisions, about their capability of carrying out successful decisions according to their own conditions, facilities, weather, etc...

For instance, the Modelling System in the Global Artificial Intelligence can suggest as a decision some particular route for some particular flight, but if this flight carrying out the order finds out that it has not got enough fuel, or the weather conditions are dangerous, or the control tower of any airport finds out a contradiction between the route suggested by the Global Artificial Intelligence and the route that a particular aircraft is using at this time, having the risk of collision the aircraft and the diverted jet, the global decision as soon as is found wrong by the particular program, even having been authorised by the global Decisional System, the particular Decisional System must integrate some protocols for the authorization of some urgent particular decisions even against the authorised global decisions, only under circumstances of risk or extreme urgency, to save lives and reduce damages.

At the end, regardless of which program, global/specific or particular, has made a decision, all the decisions must be sent to the global Decisional System, which is responsible for choosing only the most rational decisions without contradiction to the mathematical project, and transforming the decision in a range of instructions, for instance, if the decision is that one flight must be diverted from San Francisco to Los Angeles, this decision must be decomposed in a range of particular instructions to be executed by the applications that are piloting the jet: about how to change the route, how to get the new airport, where the jet must slow down, where the jet must lose altitude, where the jet must be ready to land, the range of instructions should include every single operation in the landing procedure in the runway in the new airport.

In addition to the global Decisional System, every particular program should have a particular Decisional System for situations of high risk or urgency, or routine decisions.

The responsible for matching every instruction with the corresponding application is the Application System. Firstly, the decisions transformed into instructions are sent by the Decisional System to the database of instructions in the Application System. Once all the instructions are stored in the Application System, is when the Application System matches every instruction with the corresponding application in accordance with their purpose, finally, once the instruction has been executed, is when the Application System carries out a survey researching the impact of that instruction, the impact sent later to the Learning System, to research the reasons behind every impact, in order to make decisions to improve and enhance the whole process.

In all this process, the decisions made in the third stage of the Modelling System, in the Global Artificial Intelligence and the particular programs, are essential, due to depending on these decisions is how the rest of the systems are going to complete operations.

As it was said in the previous post, "Second stage of the Modelling System at particular level", the reason why the decisions made by the Global Artificial Intelligence and the particular programs, could be different, is because the decisions made by the Global Artificial Intelligence are more comprehensive due to the possibility of getting more factors included, but the decisions made by particular programs can be more accurate because they are the first ones to register any change in the reality.

If a flight is diverted from San Francisco to Miami, and finds a terrible storm with a high risk of being impacted by thunder, the first one to register this high risk is going to be the flight itself. By the time this information arrives at the global matrix, can pass some seconds, more than enough to be the jet hit by a thunder.

For that reason, when I analyse the Decisional System, I will distinguish between the Decisional System in the Global Artificial Intelligence, and the Decisional System in particular programs. The Decisional System in the Global Artificial Intelligence is comprehensive, including absolutely all decisions on Earth from absolutely all intelligence, in order to manage and control any process on Earth. But there are situations in which a particular Decisional System only carries out a fast check of some particular decisions, only having the authorisation from the particular Decisional System. After passing the test, these particular decisions should be applied immediately, due to high risk (in addition to the possibility that routine decisions would only need the particular authorisation of their corresponding particular Decisional System).

Once these particular decisions have been authorised by the particular Decisional System, they are sent to the global Decisional System to be integrated into the global mathematical project, making the global mathematical project as many changes in other decisions, as contradictions would have been found between the already authorised particular decision and any other already gathered in the global mathematical project.

The most important reason to carry out a particular decision only having the particular authorization issued by the particular Decisional System is to save lives, protect human rights, and once all the necessary decisions to protect lives and human rights have been authorised by a particular program, must also be registered in the global mathematical

project to save any contradiction between them and any other in the global mathematical project.

And another reason for the creation of particular Decisional Systems to make and put into practice decisions by particular applications, only having the authorization of particular Decisional Systems, passing later these decisions to the global Decisional System, is because there are a wide range of particular decisions that only passing a routine check should be allowed and automatically registered as already authorised in the global mathematical project in the global Decisional System.

In any case, all particular Decisional Systems must have their own particular mathematical project, as the second stage in the Decisional System at a particular level, like in the global Decisional System in the Global Artificial Intelligence.

Coming back to the third stage for the Modelling System, having said that at a particular level, there are particular decisions made by the Modelling System in the Global Artificial Intelligence, and particular decisions made by the Modelling System in particular programs, it is time to set down what particular decisions will be made.

Until now, the decisions to be developed by artificial research are research decisions, but at a particular level is necessary to understand the importance of learning decisions and solving mathematical problems, along with research decisions. These three types of decisions: research decisions, learning decisions, and solving mathematical problems, are going to be the decisions to be made at a particular level by particular programs and the Global Artificial Intelligence itself.

Starting with research decisions, as it has been set out in the Modelling System at specific and global levels, the research decisions can be protective and bettering research decisions, depending on the algorithm used, Impact of the Defect or Effective Distribution, to identify what aspects should be improved and enhanced, to protect and better the global model, now to protect and better the particular model.

If there is an earthquake in Chile, and as a result, there is a high risk of replica in San Francisco, a high probability identified by the Global Artificial Intelligence, directly what the Modelling System in the Global Artificial Intelligence can do is to measure the

possible Impact of the Defect of that earthquake in San Francisco, in order to protect civilians and save lives.

In another different scenario, if using Effective Distribution is measured the efficiency, efficacy, and productivity of the whole economy in the United States, is found that in some economic sectors, there is some lack of efficiency, efficacy, and productivity, for instance, lack of efficiency, efficacy and productivity in renewable energies, in order to increase the efficiency, efficacy, and productivity of the renewable energies in United States, would be necessary to carry out some decisions that are going to produce changes in concrete factories, industries, facilities, across the country. A range of decisions made at the global level, due to a survey using the Effective Distribution in the Modelling System in the Global Artificial Intelligence, can end up causing massive decisions at a particular level across the whole country.

The research decisions to make by the Modelling System in the Global Artificial Intelligence, at least in the first model during the standardization process, was explained in the post "The third stage of the Modelling System in the standardization process", in synthesis of the research decisions at global/specific level are those ones possible to make upon the mathematical representations of the world: single models, global model, global actual model, and the global prediction or evolution, virtual or actual, models. Therefore, the decisions to make according to the mathematical models, in the Modelling System in the Global Artificial Intelligence are:

At the global level:

- Global protective single descriptive research decisions

- Global bettering single descriptive research decisions.

- Global protective specific comprehensive descriptive research decisions

- Global bettering specific comprehensive descriptive research decisions

- Global protective specific actual descriptive research decisions

- Global bettering specific actual descriptive research decisions.

- Global protective virtual prediction research decisions

- Global bettering virtual prediction research decisions.

- Global protective actual prediction research decision.

- Global bettering actual prediction research decision

- Global protective virtual evolution research decision

- Global bettering virtual evolution research

- Global protective actual evolution research decision

- Global bettering actual evolution research decision

At a specific level:

- Specific protective single descriptive research decisions

- Specific bettering single descriptive research decisions.

- Specific protective specific comprehensive descriptive research decisions

- Specific bettering specific comprehensive descriptive research decisions

- Specific protective specific actual descriptive research decisions

- Specific bettering specific actual descriptive research decisions.

- Specific protective virtual prediction research decisions

- Specific bettering virtual prediction research decisions.

- Specific protective actual prediction research decision.

- Specific bettering actual prediction research decision

- Specific protective virtual evolution research decision

- Specific bettering virtual evolution research

- Specific protective actual evolution research decision

- Specific bettering actual evolution research decision

Along with these decisions, particularly at a particular level by the Modelling System of particular programs, in the same way, is possible to make protective and bettering decisions for every possible model made by the Modelling System in the particular program. The possible models are: single models, particular model, particular actual model, and the particular prediction or evolution, virtual or actual, model; and upon these models, the elaboration of protective and bettering particular research decisions.

At a particular level:

- Particular protective single descriptive research decisions

- Particular bettering single descriptive research decisions.

- Particular protective specific comprehensive descriptive research decisions

- Particular bettering specific comprehensive descriptive research decisions

- Particular protective specific actual descriptive research decisions

- Particular bettering specific actual descriptive research decisions.

- Particular protective virtual prediction research decisions

- Particular bettering virtual prediction research decisions.

- Particular protective actual prediction research decision.

- Particular bettering actual prediction research decision

- Particular protective virtual evolution research decision

- Particular bettering virtual evolution research

- Particular protective actual evolution research decision

- Particular bettering actual evolution research decision

The global/specific decisions are made by the Modelling System in the Global Artificial Intelligence based on global/specific rational hypotheses made by global/specific deductive programs. As I have said many times, by the time the integration process starts, it is quite possible that the specific level could be completely absorbed by the global level. At the end of the integration process is rather possible that will remain only global rational hypotheses and particular rational hypotheses, therefore global decisions and particular decisions. The completion of the absorption process of the specific level within the global level will depend on the organization of the matrix, if the matrix is organised in a sub-factor system, like a Russian dolls system, there will be a moment in which specific programs become global programs, and in the base of this system, the most basic programs are going to be the particular programs (the smallest dolls), and as long as a group of particular programs, so particular matrices, are submitted in specific programs whose range of action can cover more than one science, discipline, activity, in a spatial range of action bigger every time, the specific program, in reality, works as a global program, while the base of this sub-factoring system, the base of this Russian dolls system, are the particular programs.

It is also possible that, in the seventh phase, the reason itself, even the particular programs, end up absorbed by the global level, but now the global level, in reality, is not a level. In reality, there is only one intelligence ruling the system.

But in the process in which this post is focused, the Modelling System in particular programs, firstly in the second period of formation in the fifth phase as particular programs only, in the third period of consolidation in the fifth phase as particular programs for particular applications, to talk about the particular level makes sense, in fact, is the foundation of the cyborg psychology by the time the first particular programs for particular applications, or vice versa, particular applications for particular programs, start working for the mass.

In this process, along with protective or bettering research decisions, are necessary learning decisions, and decisions based on solving mathematical problems, that must be made as well in the third stage in the Modelling System in the Global Artificial Intelligence, and the Modelling System for particular programs.

An example of solving mathematical problem decisions could be, for instance, given the necessity of an urgent landing for a jet running out of fuel crossing a blizzard in the middle of a wood, which could be the best place for landing? This problem is, in fact, a mathematical problem. The decision about what would be the best place for landing is a decision with different factors: where is a runway available, and if there is no runway nearby, where in the middle of the wood would be the most suitable empty space for landing, and finally, either there is a runway, or there is no a runway so it must land in an empty space, which is the weather conditions.

Firstly, if there is a runway nearby, study whether the weather conditions will allow the jet to land. For instance, if the runway is large enough to allow the jet to land, there is the probability of strong winds, which is the probability of a frozen runway in the middle of a blizzard, among others. In the end, all these calculations could be transformed into probabilities.

Given the measurements of a jet, what dimensions the runway must have, given the dimensions that such a jet need to land, the probability that the runway found in the middle of a wood crossing a blizzard is suitable for the jet is equal to: the real dimensions of the closer runway found divided by the dimension that the runway must have according to the measurements of the jet. And along with the probability according to the longitude of the runway, the probability of strong wind, so the opposite, the probability of a smart wind to land is equal one minus the probability of strong wind, and finally, the probability that the runway is frozen, for instance, if the temperature is colder than minus twenty Celsius degrees, there is a high probability of an accident landing, so the temperature of a suitable runway could be minus twenty between the current temperature.

The product of: the probability according to the longitude of the runway, multiplied by the probability of a strong wind, multiplied by the probability of a suitable temperature to land. If the result is equal to or greater than a critical reason, the runway is suitable for landing. If not, it should look for another empty space in the wood, with a suitable longitude, suitable wind, and suitable ground to land.

Evidently, this decision about where to land is a decision that must be made by the particular program in the jet, being the jet itself the particular application itself, so directly any decision that would have been accepted by the particular Decisional System in the particular program of that jet, is a decision to be transformed into a range of instructions to be applied by the Application System, that one able to manage absolutely all the jet.

Another kind of decision is based on solving mathematical problems and learning decisions, a particular application for a particular program for a particular human being, a cyborg, as an outer or inner assistant, needs to suggest decisions about how to manage the personal budget of a particular person.

The decisions to make are based on mathematical problems and learning decisions, analysing the income of this person, the expenditure of this person (rent or mortgage, how much he spends on private or public transport, how much he spends on food, how much he spends hanging out with friends, girl/boy-friend, wife/husband/son/daughter, etc...), and how much this person is able to save monthly.

This decision is, in part, a learning decision: the particular program has learnt how this person spends his money by observing how frequently he spends money on certain goods or services, so is automatically possible to make an estimation, given his current behaviour, about how much he is going to spend in coming days, weeks, future. But this decision is as well a solving mathematical problem decision, due to the particular program must make calculations about incomes, outcomes, savings, and using these calculations, and information by artificial learning, the particular program can make a suggestion about how to manage the personal budget, and using data by artificial learning along with the personal budget, to suggest decisions when this person is shopping, planning holidays, a weekend, or is hanging out with friends, girl/boy-friend or his/her family etc...

If a particular program could make decisions about how to manage the budget of a particular person as a combination of learning decisions and solving mathematical problems regarding the incomes, outcomes, savings, of this person, why not a particular program managing the budget of workplaces, factories, industries, economic sectors, institutions, ministries, governments, or inter/trans-national organizations or companies.

The same principles applied to cyborg psychology for the creation of outer or inner assistants could be applied to the management of companies, countries, continents, and the world, as if they were particular things at the same level as a particular being, as if a country itself would be a cyborg itself.

By the time cyborg psychology starts giving good results in all aspects, many aspects of cyborg psychology are going to be able to be applied in industry, economy, and security.

In fact, after the application of the Impact of the Defect and the Effective Distribution, once it has been identified what defects are necessary to prioritize to save lives and reduce damages, and what processes are necessary to prioritize due to a lack of efficiency, efficacy, productivity, the decisions to reduce damages or improve efficiency, efficacy, productivity, can be decisions mixed of learning decisions and solving mathematical problems.

Cyborg psychology, as I explained in the last post, "Second stage in the Modelling System at particular level", now in the first phase, is as if it were only an outer assistance based on artificial learning. But, it is rather possible that in the coming years, the outer assistant will become an inner assistant in non-invasive devices like headsets, earphones, and smart glasses.

As long as mind reading evolves to merge with Artificial Intelligence, personal programs and the Global Artificial Intelligence could suggest decisions to their users and, in the long term, the creation of a global cyborg community assisted by Artificial Psychology.

Rubén García Pedraza, 8th July 2018, London
Reviewed 26 August 2019 Madrid

Reviewed 20 August 2023 Madrid

Reviewed 11 May 2025, London, Leytostone

Probabilidad Imposible: Third stage of the Modelling System at particular level

imposiblenever@gmail.com